

be increased using saturated water vapor at 112 °F until the approximate center of the fruit reaches 112 °F. The fruit temperature must be held at 112 °F for 8.75 hours; then immediately cooled.

(d) *T106-c (Quick run-up)*. (1) The temperature of the article must be increased until the approximate center of fruit reaches 117 °F in a time period of at least 4 hours.

(2) During the last hour of treatment, the relative humidity in the chamber must be maintained at 90 percent or greater.

(e) *T106-d*. (1) The fruit must be sized before treatment. Temperature probes must be placed in the center of the largest fruits. The temperature of the fruit must be increased using saturated water vapor at 117.5 °F until the pulp temperature near the seed reaches 115.7 °F. The pulp temperature must be held at 115.7 °F or above for 30 minutes; then immediately cooled.

(f) *T106-d-1*. (1) The fruit must be sized before the treatment. Temperature probes must be placed in the center of the largest fruits.

(2) The temperature of the fruit must be increased using saturated water vapor at 117.5 °F until the center of the fruit reaches 114.8 °F in a minimum of 4 hours.

(3) The fruit temperature must be maintained at 114.8 °F for 10 minutes.

(g) *T106-e*. (1) Raise temperature of the fruit using saturated water vapor at 116.6 °F until the approximate center of the fruit reaches 114.8 °F within a minimum time period of 4 hours.

(2) Hold fruit temperature at 114.8 °F or above for 20 minutes. If post-treatment cooling is conducted, wait 30 minutes after the treatment to start the forced cooling process.

(h) *T106-f*. (1) The temperature probes must be placed in the approximate center of the largest fruits at the seed's surface.

(2) The temperature of the fruit must be increased to 117 °F. The total runup

time for all sensors must take at least 60 minutes.

(3) The fruit temperature must be held at 117 °F or above for 20 minutes. During the treatment, the relative humidity must be maintained at 90 percent or greater.

(4) The fruit must be hydrocooled under a cool water spray until the fruit sensors reach ambient temperature.

(5) Inspectors will examine the fruit for live quarantine pests. If pests are found, the inspector will reject the treatment.

(i) *T106-g*. (1) The internal temperature of the fruit must be increased using saturated water vapor until the approximate center of fruit reaches 117 °F in a minimum time of 1 hour or longer.

(2) The fruit temperature must be held at 117 °F or above for 20 minutes. During the treatment, the relative humidity must be maintained at 90 percent or greater.

(j) *T412-b-2*. The commodity must be heated to 212 °F for 15 minutes.

(k) *Vapor heat treatment for sweetpotatoes moved interstate from Hawaii*. (1) Temperature probes must be placed in the approximate center of the largest individual sweetpotato roots.

(2) The air surrounding the sweetpotato roots must be heated. After the temperature of the air surrounding the sweetpotato roots reaches 87.8 °F (31 °C), its temperature must be incrementally raised from 87.8 °F (31 °C) to 111.2 °F (44 °C) over a period of 240 minutes.

(3) Using saturated water vapor at 118.4 °F (48 °C), the core temperature of the individual sweetpotato roots must be raised to 116.6 °F (47 °C).

(4) After the core temperature of the sweetpotato roots reaches 116.6 °F (47 °C), the core temperature must then be held at 116.6 °F (47 °C) or higher for 190 minutes.

[70 FR 33269, June 7, 2005, as amended at 71 FR 4460, Jan. 27, 2006]

§ 305.25 Dry heat treatment schedules.

Treatment schedule	Temperature (°F)	Time	Directions
T302-a-1-2	168 minimum	At least 2 hours	Spread the ears of corn in single layers on slats or wire shelves.
T303-c-1	212	1 hour.	

Treatment schedule	Temperature (°F)	Time	Directions
T303-d-1	180–200	2 hours.	Spread soil in layers 0.5 inches in depth to ensure uniform heat penetration.
T408-a	230–249	16 hours	
	250–309	2 hours.	
	310–397	30 minutes.	
	380–429	4 minutes.	
	430–450	2 minutes.	Start timing when the entire mass reaches 248 °F. ¹
T412-a	248	15 minutes	
T412-b-1	212	15 minutes.	
T503-1-4, T503-2-4, T504-1-1, T504-2-1.	212	1 hour	Treat small bales only.
T518-1	170	4.5 hours	May take 2 hours to reach temperature.
T518-2-1	180–200	2 hours.	

¹ A minimum of two temperature probes must be placed in the heat treating equipment in order to determine that all niger seed being treated reaches the target temperature. The treatment temperature must be recorded accurately, precisely, and regularly during treatment. The monitoring equipment must be locked before each treatment begins to prevent tampering. Seed processing equipment must have the capability to divert for retreatment any nontreated seeds or treated seeds that do not meet treatment standards.

§ 305.26 Khapra beetle treatment schedule for feeds and milled products.

Feeds and milled products may be treated for khapra beetle using schedule T307-a. The temperature must be 180 °F in any part of the products, or the temperature must be at 150 °F for a total of 7 minutes. All parts of the commodity being moved through or manipulated in the heated area must meet the time and temperature requirements. This treatment must be specifically authorized in each case by the Director of Plant Health Programs, PPQ, APHIS.

§ 305.27 Forced hot air treatment schedules.

(a) *T103-a-1.* (1) The temperature probes must be placed into the center of the largest fruit in the load. The number and placement of temperature probes must be approved by APHIS' Center for Plant Health Science and Technology (CPHST) before APHIS can authorize treatment. CPHST grants approval of treatment equipment and facilities through a chamber certification procedure.

(2) APHIS may reject the treatment if the size of an individual fruit exceeds the maximum size authorized by APHIS.

(3) Fruit can be sized before or after the heat treatment. The largest fruit in a load can be identified by either sizing all fruit prior to heating and selecting the largest size class in the load or acquiring fruit of the largest per-

mitted maximum commercial size class.

(4) The fruit containing the temperature probes must be placed inside the hot air chamber at chamber locations specified by APHIS during the chamber certification.

(5) Fruit temperature must be increased within specifications:

(i) The fruit center temperature must be increased to 111.2 °F within 90 minutes or more (minimum approach time is 90 minutes) for all temperature probes.

(ii) The fruit center temperature must be kept at 111.2 °F or hotter for 100 minutes.

(iii) The temperature of the fruit center must be recorded every 2 minutes for the duration of the treatment.

(iv) The total treatment time will vary with the time required to reach 111.2 °F.

(v) Fruit must be cooled after the treatment is completed.

(b) *T103-b-1, T103-d-1, and T103-d-2.*

(1) Temperature sensors must be inserted into the centers of the largest fruits. The number of sensors must be approved in advance by APHIS. Sensors must be physically placed in various parts of the load so that high, middle, and low areas are all represented.

(2) Fruit (placed in open trays, bulk bins, or ventilated boxes) must be loaded into the treatment chamber, and sensors must be attached to the recorder monitor.